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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,620	12/05/2003	William Charles Ulland	2970.111US01	2932

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EXAMINER	
SAVAGE, JASON L	

ART UNIT	PAPER NUMBER
1775	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/729,620	ULLAND ET AL.	
	Examiner	Art Unit	
	Jason L. Savage	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 31-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16, 31-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10, 12-16 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable Sekiya (JP 04-151208).

Sekiya teaches an etched metal article **4** formed of sintered porous metal wherein a portion of the metal article **4** has been removed by an etching process from at least one surface of the article (abs.). Sekiya is silent to the metal article being a compression-formed particulate metal object. However, the claims are drawn to an article, not the method of making. In a claim directed to a product, it is the product itself which must be new and unobvious. In re Pilkington 162 U.S.P.Q. 145,147 (C.C.P.A. 1969). Any conventional method of forming a particulate metal object such as the sintering product of Sekiya could provide an article having the same structure as that claimed.

Furthermore, it would have been within the purview of one of ordinary skill in the art at the time of the invention was made to have recognized that porous sintered metal articles are conventionally formed from metal particulate materials which have been subjected to compression. Absent a teaching of the criticality or showing of unexpected results from the claimed process, it would not provide a patentable distinction over the prior art.

Regarding the limitation that the etching process used to remove a portion of the particulate metal object is an abrasive etch, the claims are drawn to an article, not the method of making. Furthermore, it would have been obvious to one of ordinary skill in the art to have recognized that obvious alternative etching processes could be employed with a reasonable expectation of success.

Regarding claims 2, 4-5 and 9-10, Sekiya teaches that a resin may be impregnated in the porous metal article **4** (abs). Regarding the limitations in claims 4, 5, 9-10 about the timing of the impregnation, the claims are drawn to an article, not the method of making. Absent a teaching of the criticality or showing of unexpected results from the impregnation occurring after sintering, before etching, etc such as recited in the claims, it does provide a patentable distinction over the prior art.

Regarding claim 3, Sekiya is silent to the specific metal material used, however it would have been within the purview of one of ordinary skill in the art to have recognized that any metal material could be employed for the article of Sekiya including those claimed with a reasonable expectation of success.

Regarding claim 6, Sekiya teaches that a non-particulate objects **5**, **3**, and **6** all may be joined to the porous metal article **4** prior to etching. (see Figures)

Regarding claims 7-8, Sekiya teaches an etch resistant object **6** is joined to the metal article **4** prior to etching. Although Sekiya is silent to the relative etch resistance of the object **6** compared to the metal article **4**, it would have been obvious to one of ordinary skill in the art to have selected materials with the claimed etch resistance since the object **6** is intended to be resistant to the etching material.

Regarding claims 9-10, Sekiya teaches that the porous sintered article subjected to an etching process (abs). Although it is silent to the sintering occurring after an etching step is performed such as recited in claim 10, the claims are drawn to an article, not the method of making. Absent a teaching of the criticality or showing of unexpected results from the sintering occurring after etching such as recited in claim 10, it does provide a patentable distinction over the prior art.

Regarding claims 12-16, Sekiya is silent to the overall density of the sintered article **4**. However, it would have been within the purview of one of ordinary skill in the art to have formed the porous article having any desired density including densities of at least 85% with a reasonable expectation of success in forming the porous sintered metal mold of Sekiya. Absent a teaching of the criticality of showing of unexpected results when the density of the article is within the range claimed, it would not provide a patentable distinction over the prior art.

Regarding claim 31, Sekiya teaches the porous metal article **4** which is impregnated such as is claimed. Sekiya further teaches that an etch-resistant layer **6** is in contact with the metal article **4**. Sekiya also teaches that a portion of the metal article **4** is selectively removed (abs and figures). Although Sekiya does not specifically recite the portion removed is to expose the etch-resistant layer **6**, the removal process would further expose the layer **6**, thus meeting the claim limitation (Figures 4 and 5).

Regarding claims 32 and 33, Sekiya is silent as to the etch-resistant layer being a solid metal or a photosensitive mask such as is claimed. However, it would have been within the purview of one of ordinary skill in the art at the time of the invention to

have selected any known etch resistant material for the layer **6** with a reasonable expectation of success including the materials claimed.

Regarding claim 34, Sekiya teaches the metal article **4** is sintered prior to impregnation (abs).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable Sekiya (JP 04-151208) in view of GB'219 (GB 667,219).

Sekiya teaches what is set forth above but is silent to the porous metal article **4** being impregnated with any material other than a resin. GB'219 teaches a porous sintered article formed of particulate material suitable for use as a mold (page 1, lines 28-44). GB'219 further teaches that the pores may be impregnated with material to provide the article with an improved surface finish (page 2, lines 11-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the porous article of Sekiya with the teachings of GP'219 wherein the pores are impregnated with other materials in order to provide the article with differing surface finishes. It would have been within the purview of one of ordinary skill in the art to recognize that a wide variety of materials could be employed as the impregnating material, including the use of metal materials with a reasonable expectation of success.

Response to Arguments

Applicant's arguments filed 4-17-07 have been fully considered but they are not persuasive.

Applicant argues that Sekiya failes to teach a compression-formed particulate metal object. Applicant further asserts that the metal particles of the present invention are formed into rigid or substantial rigid objects by compression, resulting in a dense material that has a weight and conductivity approaching that of solid metal, and also reduces the voides between the particles, thereby increasing the similarity in appearance to a solid metal. Applicant also states that the metals of the present invention are strong enough to be handled, moved and processed, even without sintering. These arguments are not commensurate in scope with the claims.

As recited in the rejections set forth above, although Sekiya is silent to the metal article being a compression-formed particulate metal object, the claims are drawn to an article, not the method of making. In a claim directed to a product, it is the product itself which must be new and unobvious. In re Pilkington 162 U.S.P.Q. 145,147 (C.C.P.A. 1969). Applicant does not recite any parameters for the compression step and could be a light compression which may not result in any difference in structure than that taught by the prior art of Sekiya. Furthermore, as recited above, compressing particulates such as to form a preform prior to sintering is well known in the art and would have been an obvious modification to the prior art of Sekiya.

Applicant further argues that Sekiya teaches the use of acid etching as opposed to the abrasive etching limitation recited in the claims. Applicant recites multiple reasons for why acid etching is not used for the present invention, however the claims

are drawn to an article, not the method of making. The claims recite that a portion of the object has been removed from the surface. The object of Sekiya having been subjected to the acid etching process would also have a portion removed from the surface such as claimed. Furthermore, it would have been obvious to one of ordinary skill in the art to have recognized that obvious alternative etching processes could be employed with a reasonable expectation of success.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason Savage
6-15-07

JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
6/19/7